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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,722	09/26/2003	Timothy S. Dyer	2003-0048-01	9419

7590 06/23/2005

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EXAMINER

VANNUCCI, JAMES

ART UNIT PAPER NUMBER

2828

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/672,722

Applicant(s)

DYER ET AL

Examiner

Jim Vannucci

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-67 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2 and 41-67 is/are allowed.
- 6) ☒ Claim(s) 3-12,24 and 25 is/are rejected.
- 7) ☒ Claim(s) 13-23 and 26-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Broderick et al.(6,198,759) in view of Sukhman et al.(5,982,803).

Claim 3, figure 10 of Broderick discloses an anode(12) and an up stream fairing(12I) each composed of electrically conductive material. The discharge receiving portion(46) is not anodized.

Sukhman discloses anodizing an electrode(col. 3, lines 39-42) in a gas laser device to optimize the laser operating parameters(col. 3, lines 8-17).

Claim 4, the anode and the up stream fairing disclosed in figure 10 of Broderick can be constructed as one piece since they are mounted on a single support.

Claims 5-6, the anode and the up stream fairing disclosed in figure 10 of Broderick are expose to the laser gas. The complete electrode disclosed in Sukhman is anodized(col. 3, lines 39-42).

Claims 7-10, Sukhman discloses selecting the thickness of the anodized layer on the discharge footprint of the electrode to obtain a desired impedance(col. 8, lines 28-33 and 38-39) and erosion resistance results from the selected anodizing material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to anodize the anode disclosed in Broderick to optimize the laser operating parameters as disclosed in Sukhman.

3. Claims 11-12 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sukhman in view of Wakata et al.(4,837,773).

Claims 11-12, figures 4 and 5 of Sukhman disclose an elongated gas discharge anode(91 & 92) with a discharge region extending longitudinally along the surface of the elongated gas discharge anode with a portion of the discharge region covered with a pre-formed reef formed of an anodized material(col. 3, lines 39-42). Sukhman does not disclose anode pores.

Figure 6 of Wakata discloses an electrode(6) with generally uniform pore size and spacing to obtain an electric discharge in the pores of the electrode(col. 5, lines 15-18).

Claims 24-25, the reef disclosed in Sukhman is made from aluminum(col. 3, lines 39-42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to form pores in the anode disclosed in Sukhman to obtain an electric discharge in the pores as disclosed in Wakata.

### ***Double Patenting***

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

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F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 11-12 and 24-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6 and 9-10 of U.S. Patent No. 6,690,706. Although the conflicting claims are not identical, they are not patentably distinct from each other because the "preformed reef" element recited in the above listed claims of this application has equivalent scope to the "anode material" element recited in the referenced patent. All other limitations recited in the above listed claims of this application are also recited in the claims of '706.

6. Claims 11-12 and 24-25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 4-5 of U.S. Patent No. 6,711,202. Although the conflicting claims are not identical, they are not patentably distinct from each other because the "preformed reef" element recited in the above listed claims of this application has equivalent scope to the "porous insulating layer" element recited in the referenced patent. All other limitations recited in the above listed claims of this application are also recited in the claims of '202.

7. Claim 11 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of

copending Application No. 10/638,247. Although the conflicting claims are not identical, they are not patentably distinct from each other because the "preformed reef" element recited in the above listed claims of this application has equivalent scope to the "porous layer" element recited in the referenced patent. All other limitations recited in the above listed claims of this application are also recited in the claims of '247.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Allowable Subject Matter***

8. Claims 1-2 and 41-67 are allowed.
9. Claims 13-23 and 26-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. The following is a statement of reasons for the indication of allowable subject matter.

The following limitations are primarily responsible for distinguishing these claims over the prior art.

Regarding claim 1, the limitations concerning the crown in traverse cross section having the shape of the upper half of a canted ellipse rotated in the pre-ionizer direction; regarding claim 2, the limitations concerning an asymmetric discharge side of the anode blade and the top portion beveled away from the asymmetric discharge side of the anode; regarding claims 13, 15, 17, 19, 21, 23, 26, 28, 30, 32, 34 and 36, the limitation

concerning the preformed reef being formed of a vacuum infiltrated porous anodized material as recited in claim 13; regarding claims 14, 16, 18, 20, 22, 27, 29, 31, 33 and 35, the limitation concerning the surface of the discharge region being mechanically textured prior to the formation of the preformed reef as recited in claim 14; regarding claims 37-40, the limitations concerning a gas discharge electrode discharge region pre-formed reef formed by forming a first anodization layer, removing the first layer and forming a second anodization layer as recited in claim 37; and regarding claims 41-67, the limitations concerning forming a reef template and growing a porous layer of insulating material for an elongated gas discharge electrode as recited in claim 41.

Proper motivation could not be found in the prior art to combine references disclosing these limitations with the references disclosing the other limitations recited in these claims.

### ***Response to Arguments***

11. Applicant's arguments filed May 10, 2005 have been fully considered but they are not persuasive with respect to claims 11-12 and 24-25.

Concerning the scope of the "reef" limitation in claims 11-12 and 24-25, examiner interprets this limitation broadly even though it may be disclosed in the specification with additional structure. Examiner asserts that a reef can be any porous structure. Applicant can include additional limitations to further limit the reef element.

Sukhman discloses an aluminum oxide anode coating and Wakata discloses that an anode can have a porous surface to obtain an electric discharge in the pores of the

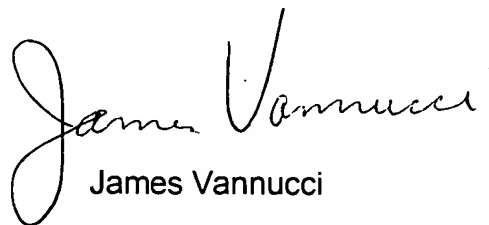
surface. A combination of these two references would result in the surface of the aluminum oxide anode coating disclosed in Sukhman having pores as is the improvement as disclosed in Wakata.

***Correspondence***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Vannucci whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.

  
James Vannucci